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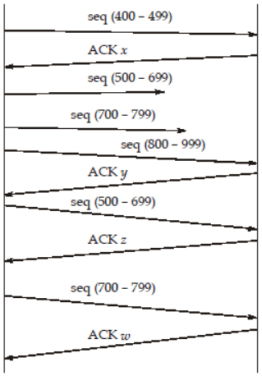
COMPUTER NETWORKS-2 (GATE 2023) - REPORTS

OVERALL ANALYSIS | COMPARISON REPORT | SOLUTION REPORT

ALL(17) | CORRECT(12) | INCORRECT(5) | SKIPPED(0)

Q. 11 Solution Video | Have any Doubt ?

Segments are transmitted from client TCP to server TCP. Calculate x, y, z, w values of acknowledgments transmitted by server TCP to client TCP?



A. 500, 1000, 700, 800

B. 500, 1000, 700, 1000

C. 500, 500, 700, 1000 — Your answer is **Correct**

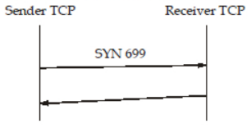
Solution :
(c)
Acknowledgment number will be sequence number of next expected data. ACK x will be 500.
TCP can send back to back segments but if some segments are lost in between, TCP will send duplicate ack. ACK y will be 500 and ACK z will be 700.
ACK z will be 1000.

D. None of these

QUESTION ANALYTICS +

Q. 12 Solution Video | Have any Doubt ?

Client is trying to establish a http connection to the server with source port 60000 and destination port 83. The initial SYN segment sent by client is 599.
Then which segment will be replied by server.



A. ACK 700 — Your answer is **IN-CORRECT**

B. RST segment — Correct Option

Solution :
(b)
When client is trying to establish a connection to the server, the server is in listening. State to provide services to different clients.
But when client tries to establish server with unknown port , then connection cannot be established. When client is sending syn segment with destination port 83, connection cannot be established. So RST segment is transmitted.

C. Data segment

D. None of these

QUESTION ANALYTICS +

Q. 13 Solution Video | Have any Doubt ?

Original block of ISP is given as 201.34.99.193/22. This block is divided in to 8 sub blocks. Then what would be the first host of 5^{th} subnet id?

A 201.34.99.1/22

B 201.34.97.1/22

C 201.34.98.0/22

D 201.34.98.1/22 — Your answer is **Correct**

Solution :
(d)

Number of address of block are $2^{32-22} = 2^{10}$ addresses

Number of addresses in each subblock = $\frac{1024}{8}$ =128 IP addresses = 232 – 25 addresses

1^{st} subblock = 96.0/22 ..... 96.127/22
2^{nd} subblock = 96.128/22 ..... 96.255/22
3^{rd} subblock = 97.0/22 ..... 97.127/22
4^{th} subblock = 97.128/22 ..... 97.255/22
5^{th} subblock = 98.0/22 ..... 98.127/22

So the first address of 5^{th} subnet id = 201.34.98.1/22

QUESTION ANALYTICS +

Q. 14 Solution Video | Have any Doubt ?

IP1 = 199.35.68.94, IP2 = 199.35.68.99, IP3 = 199.35.68.158. IP4= 199.35.68.62 Subnet mask is 255.255.255.224
Maximum number of hosts IPs belong to same subnet from given list are _____.

1 — Correct Option

Solution :
1

255.255.255.224 is the subnet mask
94 can be written as 01011110
99 can be written as 01100011
158 can be written as 10011110
62 can be written as 00111110

Your Answer is 3

QUESTION ANALYTICS +

Q. 15 Solution Video | Have any Doubt ?

Present sender window size in slow start algorithm of TCP is 6400 bytes. Maximum segment size is 200 bytes. What would be the next window size in (mss) if no congestion happens? _____

64 — Correct Option

Solution :
64

1 mss = 200 bytes
6400 bytes = 32 × 200 bytes = 32 mss

In slow start algorithm, the increase of sender window size is based on number of acknowledgments.

32 mss + 32 mss = 64 mss

Your Answer is 34

QUESTION ANALYTICS +

Q. 16

Solution Video | Have any Doubt ?

Given ISP has a block 130.61.0.0/20. A company requires IP addresses for 1000 computers.
Which of following are eligible range of IP address can be assigned to company?

A 130.61.8.0/22 — Your option is Correct

B 130.61.28.0/22

C 130.61.12.0/22 — Your option is Correct

D None of these

YOUR ANSWER - a,c | CORRECT ANSWER - a,c | STATUS -

Solution :

(a, c)
130.61.0.0/20
Number of address of block are 232 – 20 =16 × 256 addresses
00000000.00000000 ..... 00001111.11111111
130.61.0.0/20 ..... 130.61.15.255/20
1000 addresses is nearest 2^{10}.
Possible combinations for subnets are 0, 4, 8, 12, 16, 20, 24.
But the actual block extended up to 15.255, so the possible combinations are 0, 4, 8, 12 only.

QUESTION ANALYTICS +

Q. 17

Solution Video | Have any Doubt ?

TCP connection is established from client to server. Both sides connection is established and transmitting the data, suddenly server is crashed and rebooted.
Which of following situation can be expected from server?

A After rebooting, server will send FIN segment to the client.

B After rebooting, server will send RST segment to the client. — Your option is Correct

C Before rebooting of server, if client all keep alive timers expire, then client cannot transmit data in same connection. — Your option is Correct

D None of these

YOUR ANSWER - b,c | CORRECT ANSWER - b,c | STATUS -

Solution :

(b, c)
When keep alive timers of client expires and if server tries to contact after reboot, client cannot accept it. Client can accept RST segment before their timer expires, if server sends when its rebooted.

QUESTION ANALYTICS +